

November, Fischer (Orth. Eur., 369, 374) referred the former species to his new genus *Platyphyma* and the latter to *Pezotettix*. Fischer has been generally followed, but it is plain that *Platyphyma* must give way to *Pelecyclus*, which in its term must yield precedence to *Pezotettix*; of which *giornae* becomes the type, while *pedestris* becomes the type of *Podisma*. The numerous species, therefore, which in recent years, both in this country and in Europe have been referred to *Pezotettix* must be classed under *Podisma*.

The early use of the term *Podisma* previous to 1853 and after 1829 (other than we have given) also sufficiently confirms the appropriateness of restoring *Podisma* for the species now generally

included in *Pezotettix*; for Fischer de Waldheim in 1846 (Orth. Russ. 249-253) used it for six species of which the first three belong to *Pezotettix* of modern writers, the next two to *Chryochraon*, while the last is not recognizable. [The second species, *P. primnoa* Motsch., has also not been recognized by later writers but I possess specimens from different places in Transbaicalia]; Borck in 1848 (Skand. rätv. ins. nat. hist., 87-92) refers to it *pedestris*, and *frigida*; and finally H. Fischer himself first used it, in 1849 (15 Jahresb. Mannh. ver. nat., 38) for *frigida*. His reason for later (Orth. Eur., 365, note) supplanting *Podisma* by *Pezotettix* cannot be defended.

TWO NEW SPECIES OF ENTOMOBRYA.

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Entomobrya hexfasciata, n. sp.

Ground color greenish yellow. Body clothed with short, downy hairs and numerous long bowed plumose clubbed hairs, which give the insect a shaggy appearance. Head as long as broad. Square behind and widest in the posterior third. A small, dark spot at the base of each antenna joined by a narrow line of the same color, but *not* reaching the eye patches. Eye patches dark, narrow, three times as long as wide. Antennae stout, purplish. The terminal joint pale purple throughout. The other joints tipped with dark purple, while the bases are pale yellow. The purple tip is especially conspicuous on the basal joint. The very short basal ring is here ignored and the

antennae described as only four jointed. The basal joint shortest, the third slightly longer than the second and the terminal a half longer than the third. Body fusiform. Mesonotum as broad as the head. Body widest at the anterior suture of the fourth abdominal segment. The fourth abdominal segment not quite as long as the three preceding taken together. There is no dark band along the side of the body. Mesonotum, metanotum and second abdominal segment with broad fascia along the *anterior* border. First abdominal segment marked along the *anterior* border with a row of fine dots. Band on the third located in the *middle* and nearly as wide as the segment. Fourth segment with a band along the *posterior* margin, which connects with a triangular

patch at the sides and extends along the median line into an obtuse point. Fifth segment with a median, transverse, narrow band that arches backward or sometimes covers the segment. Terminal segment plain. Legs, under side of body and elater yellowish. Legs rather stout.

Elater long, slender. Manubrium a fourth shorter than the mucrones and dentes together. Mucrones annulated. The whole elater clothed with long hairs, a prominent one extending beyond the dentes.



Fig. 1.

Entomobrya hexfasciata

Measurements.—Total length, 1.52 mm.; head, .345 mm. x .345 mm.; antennae, .776 mm.; ratios of joints 9: 10: 11: 17; body 1.19 mm. long, .4 mm. broad at the fourth abdominal segment; ratios of segments 20: 10: 9: 12: 12: 25: 10: 5. Elater total, .81 mm.; manubrium, .345 mm.; mucrones and dentes, .465 mm.; long hairs on the legs, .112 mm.; clubbed bowed hairs on body often .230 mm.; eye patches, 69 μ x 25 μ .

Other specimens measured were 1.22 mm. and .93 mm., total length and the antennae .58 mm.; ratio 5: 6: 6: 9 and .366 mm.; ratio 4: 6: 8: 13. Though smaller the color patches were the same as on larger specimens.

Habitat.—Found during the fall in moss in the woods upon the ground or upon logs. Seems to prefer very moist situations. Several specimens examined in 1891 to 1894. Orono and Greenfield. Mr. F. L. Harvey.

Distinguishing characters.—Related in habits to *E. decmfasciata* Pack. but seeking more damp situations. We have never found them associated. It resembles in some respects *E. multifasciata*, var. *pulchella* Ridley, but the color bands are differently arranged. This species is readily distinguished by the smaller, thicker set body, which is widest at the fourth abdominal segment, the stouter legs and antennae, the nearly triangular head, which is square behind, the shorter antennae, the small eye patches, which are not joined to the patches at the base of the antennae, absence of markings on the side of the head and side of the body, the anterior position of the bands on the body segments, the row of dots on first abdominal segment and the absence of markings on the terminal abdominal segment.

Remarks.—The hairs on the body are brown by reflected light, especially upon the dark bands. The bands in balsam specimens show dark purple but in life appear deep brown or black.

The species is quite active and a good jumper. The antennae on one specimen had only three segments; a very short basal one and a terminal as long as the other two, which had the hairs arranged verticillately. This may have been a young specimen though the size was large and the color bands typical. This species has the short basal ring making really fine joints to the antennae. This basal ring is not shown in Emerton's drawing Fig. 1. Our species violates the generic description of Rondani by having the terminal joint of the antennae too long to be called subequal to the second and third. Also has the fourth body segment somewhat shorter than the three preceding. The drawing Fig. 1, enlarged 30 times, was made from a live specimen by Mr. J. H. Emerton; the head was modified and the elater drawn by the writer. The species is named *E. hexfasciata* on account of the six conspicuous bands upon the body segments.

Entomobrya pygmaea, n. sp.

Ground color pale yellow. Marked with purple bands. Body, antennae and elater clothed with long hairs. Body fusiform, broadest at the metanotum and much narrowed behind. Head oblong, a fifth longer than broad, rounded behind, widest at about the middle. The eye patches oblong, a third longer than wide and joined by a broad band that arches forward. Head not otherwise marked. Antennae stout, purple. Segments in the ratio of 5:6:6:9, nearly. Mesonotum broad, anterior edge, sides and posterior edge marked with a narrow band. Tendency to a median longitudinal stripe as shown by the projections on the anterior and posterior

bands. Metanotum and the first three abdominal segments bordered on the anterior margin, the color patches reaching to the band along the sides. Fourth segment with an interrupted longitudinal band which does not reach the anterior border or band along the sides. Fifth and sixth segments plain. The fourth segment of the abdomen nearly twice as long as the three preceding.



Fig. 2.

Entomobrya pygmaea.

Legs and elater light colored. The latter slender. Manubrium to mucrones and dentes as 11:15.

Measurements.—Total length, 1.11 mm.; ratio of parts, antennal joints 5:6:6:9; head 15:12; body segments 5:3:2½:2½:3½:15:3:2; elater 11:15.

Habitat.—Upon juniper wood in the yard during March and April, 1892. The wood was brought from a swamp in the fall and this species is probably arboreal in habit. Orono. Mr. F. L. Harvey.

Distinguishing characters.—The small size, the form of the body, so

broad in front and so very narrow behind, the broad band between and joining the eye patches, the absence of other markings on the head, the anterior position of the bands on the metonotum and first three abdominal segments, the anterior and posterior narrow bands of the mesonotum, the absence of markings on the fifth and sixth abdominal segments, the very long fourth abdominal segment and the comparatively short antennae.

Remarks.—The drawing of this species (Fig. 2) was made from a live specimen by Mr. J. H. Emerton and, as in most of his sketches of these soft insects, it is too broad, due to pressure needed to hold them still while drawing.

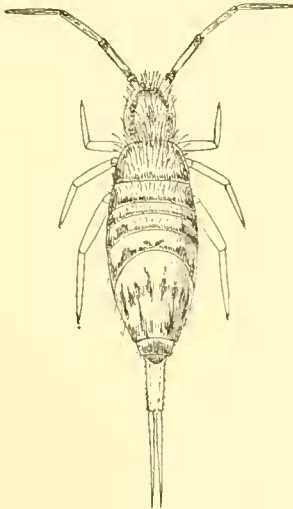


Fig. 3.

Entomobrya decemfasciata.

We have added Fig. 3 drawn by Emerton, which shows what we call *Degeeria decemfasciata* Packard,

which according to Brooks (Linn. Journ. Zoology, Vol. XVII, May, 1883, p. 275) = *Podura fasciata* Say = *Entomobrya multifasciata* Tullb.

Mr. Macgillivray in his catalogue of Thysanourans of North America (Can. ent. vol. XXIII, Dec. 1891, p. 273) makes this species and Tullberg's synonyms of *Podura fasciata* Say.

Mr. Brooks puts a question mark after both Packard's and Say's species, having we presume never examined the forms. We have never seen Tullberg's species, but Mr. Macgillivray kindly sent us alcoholic specimens of what he regarded Say's species and we would very reluctantly regard them the same as the species we figure as Packard's *D. 10-fasciata*. To try and settle the identity of our form with Packard's, we sent specimens to the author of the species but could not get him to express a *positive* opinion whether they were the same or not. When authors cannot recognize their own species from specimens, what can those who have only their descriptions to go by be expected to do?

We understand that Packard's types were deposited in the collections at Cambridge, and if still in condition and accessible we hope some time to look them over. Say may have drawn up his description from young specimens of Packard's species, but we doubt it, and would prefer to hold both as good species until the forms are thoroughly studied and also hold both distinct from *E. multifasciata* Tullberg until foreign and American specimens are carefully compared.